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ABSTRACT

This digest provides an overview of nonverbal learning disabilities (NLD) along with principles for designing and implementing instructional interventions to address its effects. It begins by explaining characteristics of students with NLD, including their tendency to focus on details rather than on the larger picture, the difficulties they may have with mathematical concepts, and the trouble they may have copying spatial designs and drawing these from memory. Strategies for modifying the environment are provided. The need for direct instruction for students with NLD is emphasized and the following recommendations are made for teaching students with NLD: (1) be clear and direct in addressing the difficulty; (2) gain a commitment from the learner to collaborate to improve the weakness; (3) begin the work with what is most familiar and simple; (4) rely heavily on the student's verbal and analytic strengths; (5) model verbal mediation of nonverbal information; (6) provide specific sequenced verbal instructions; (7) provide instruction to associate and integrate verbal labels and description directly with concrete objects, actions, and experiences; (8) encourage the student to use multisensory integration; (9) teach in a sequential fashion; and (10) identify opportunities to generalize newly learned skills to other situations. (CR)

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Jean M. Foss

Laura doesn't like school because the other children don't want to socialize with her. She doesn't enjoy lunch anymore because she has no one to sit with, and now that she's going on 9, her academic work is not as good as it used to be. She has trouble with fractions and reading comprehension.

Laura's teacher has tried to talk with Laura, but Laura's response is a monologue of details wtih no point or purpose. She tries to help the girl with reading, but although Laura understands the words, she doesn't seem to comprehend the meaning of what she's read. Problems like these are common for children with nonverbal learning disability (NLD), who often experience social rejection as well as academic difficulty because of the symptoms of their disability.

People with NLD have difficulty processing nonverbal, nonlinguistic information, yet they may be very good at processing verbal information. They often fail to monitor the reactions of a listener. Frequently, they are excessively verbal and expressive. They depend on verbal input, verbal mediation, and verbal self-direction in order to function. They may talk a great deal, yet use words in a narrow, rigid way. Other behaviors affecting communication and social interactions include interrupting people, perhaps by speaking out of turn or by moving back and forth between people engaged in conversation, standing too close, or touching too much. Consequently, other people may choose not to interact with them, may avoid them, or may even ostracize them.

Individuals of all ages may exhibit characteristics of NLD. The reactions of others tend to leave them feeling isolated, lonely, and sad. They usually want to learn appropriate social behaviors, and they generally respond positively to instruction that leads to improved social behavior. This digest provides an overview of NLD and principles for designing and implementing instructional interventions to address its effects.

Performance Patterns in Assessment

The consequences of NLD for learning, life, and work cause concerned parents and teachers to seek a psychological, psychoeducational, or neuropsychological evaluation in order to understand the nature of the difficulties and possible remedies. Assessments usually reveal a pattern of strengths in verbal tasks and weaknesses in visual, spatial, and other nonverbal tasks. For example, on the Wechsler scale, the verbal IQ tends to be significantly higher than the performance IQ. Verbal abstract reasoning as measured by the Similarities subscale of the Wechsler is often a relative strength, while nonverbal reasoning as measured by Block Design is often weak, as are Object Assembly, Picture Arrangement, and Coding.

Achievement tests that measure oral reading, word identification, word decoding, and rote spelling yield relatively higher scores than measures of reading comprehension. In mathematics, computation is often stronger than conceptual understanding and applications.

Individuals with NLD tend to focus on details rather than on the larger picture. Therefore, they may have great difficulty setting priorities, separating the main idea from details, developing outlines, taking notes, and organizing paragraphs based on topic sentences. Mathematics concepts based on part-whole relationships, such as fractions, decimals, and percentages, tend to be problematic. Because of difficulties perceiving spatial relationships, individuals with NLD may have trouble copying spatial designs and drawing these from memory. The inability to separate the essentials from the details also affects interpersonal and social communications, both receptive and expressive. For example, people with NLD might not be able to select and attend to the important points of a conversation, or they may ramble, providing a myriad of details without making clear points.

Improving Understanding and Performance

Effective educational interventions begin by addressing organizational difficulties, working with part-whole relationships, and working toward integrating verbal and nonverbal processes. Interventions use verbal strength to analyze and mediate information (e.g., by describing a scene or situation to oneself), and self-talk to provide direction for completing tasks (e.g., by sequencing the steps to a task and saying each step to oneself). Effective interventions include modifying academic and social environments and direct skills instruction. Direct instruction must include a clear explanation of the contexts in which the skill can be applied.

Modifying Environments

In the academic environment, it is important to address the student's difficulty in prioritizing tasks and organizing the steps necessary to accomplish those tasks. A student who is overwhelmed may become unable to function and thus unable to complete the task.

Modifications that contribute to a supportive academic environment for the person with NLD include

- Ensuring that all the student's teachers know that the student has NLD and understand its implications.
- Establishing performance expectations based on observation and knowledge of what the student is able to complete or produce, given the nature of the tasks and the time available.

- Providing structure and directions about priorities for completing multiple tasks.
- Arranging with other teachers to stagger the demands for products (papers, projects, tests, etc.), so that they are not all due at the same time.

Modifications that facilitate socialization include the following:

- Being sensitive to situations that have high potential for the student to behave inappropriately and intervening to avoid behavior that might lead to criticism, teasing, or social ostracism.
- Engaging the student in a collaboration in which the teacher or parent signals when the student is making a social error and the student agrees to immediately stop the behavior.
- Arranging structured social activities for young children (through elementary school); coaching the child in how to participate; and signaling the child discreetly if he behaves in a manner that turns others away.

Providing Direct Instruction

Students with NLD generally respond to direct instruction and guided practice. Perception of spatial relationships, ability to copy and draw geometric forms and designs, handwriting, reading comprehension, mathematics concepts and skills, and social perception and communication skills can be improved by explicit instruction.

This instruction, modified for the nature of the task or skill, incorporates the following underlying principles:

- Be clear and direct in addressing the difficulty.
- Gain a commitment from the learner to collaborate to improve the weakness.
- Begin the work with what is most familiar and simple—the more novel or complex, the more difficult the task.
- Rely heavily on the student's verbal and analytic strengths.
- Model verbal mediation of nonverbal information while teaching the learner how to use this strength. For example, use words to describe and analyze a scene or situation.
- Provide specific sequenced verbal instructions, teaching the learner to verbally self-direct and eventually to internalize this process.
- Provide instruction to directly associate and integrate verbal labels and description with concrete objects, actions, and experiences.
- Encourage the student to use multisensory integration, both receptively and expressively (read it, see it, hear it, touch it, say it, write it, do it).
- Teach in a sequential, step-by-step fashion.
- Identify opportunities to generalize newly learned skills to other situations and to practice in those situations.

Developing Social Competence

The interpersonal and social aspects of NLD have great significance for a student's life. The individual who does not attend to or accurately interpret the nonverbal communication of others cannot receive a clear message. Our concept of self is shaped in large measure by the reflection of how others view us. The person who has NLD, then, may not receive feedback from others and may suffer from a less clear concept of self. The diminished ability to engage with others greatly limits the possibility of defining himself based on such feedback.

Because of their verbal strengths, many individuals with NLD succeed in formal educational situations. However, if their social competence has not developed commensurately, they may not find and keep employment at the level for which their education has prepared them.

Because individuals with NLD make considerable progress in areas of weakness when instruction is appropriate, accurate diagnosis and appropriate instruction can have great benefit for their lives.

Resources

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